

Proposed Definition of “Large Confined Animal Facilities” (SB 700)

California Air Resources Board
June 23, 2005





Outline

- Background
- Staff Proposal
- Issues
- Recommendation

SB 700

- ARB must define “Large Confined Animal Facilities” by July 1, 2005
- Definition triggers emission mitigation process by local air districts

Confined Animal Facilities



Dairies



Photos: CSU Fresno

SB 700 Timeline

- ARB “Large” Definition July 1, 2005
- Local Air Districts Develop Rules July 1, 2006
- Emission Mitigation Plans Due January 1, 2007
- Plans Implemented July 1, 2008

Emission Mitigation Requirements

- Applies to federal one-hour ozone nonattainment areas (as of 1/1/04)
- For other areas, applies unless air district finds large CAFs will not contribute to violation of any air quality standard

Mitigation Process

- Air districts go through public rulemaking process
- Must consider cost-effectiveness and feasibility
- ARB emission factors must be used

Livestock ROG Emission Factors

Livestock	Emission Factor (lbs ROG/head/year)
Dairy (milk cow)	12.8
Beef Cow	5.5
Chickens	0.02
Turkeys	0.06
Swine	4.6

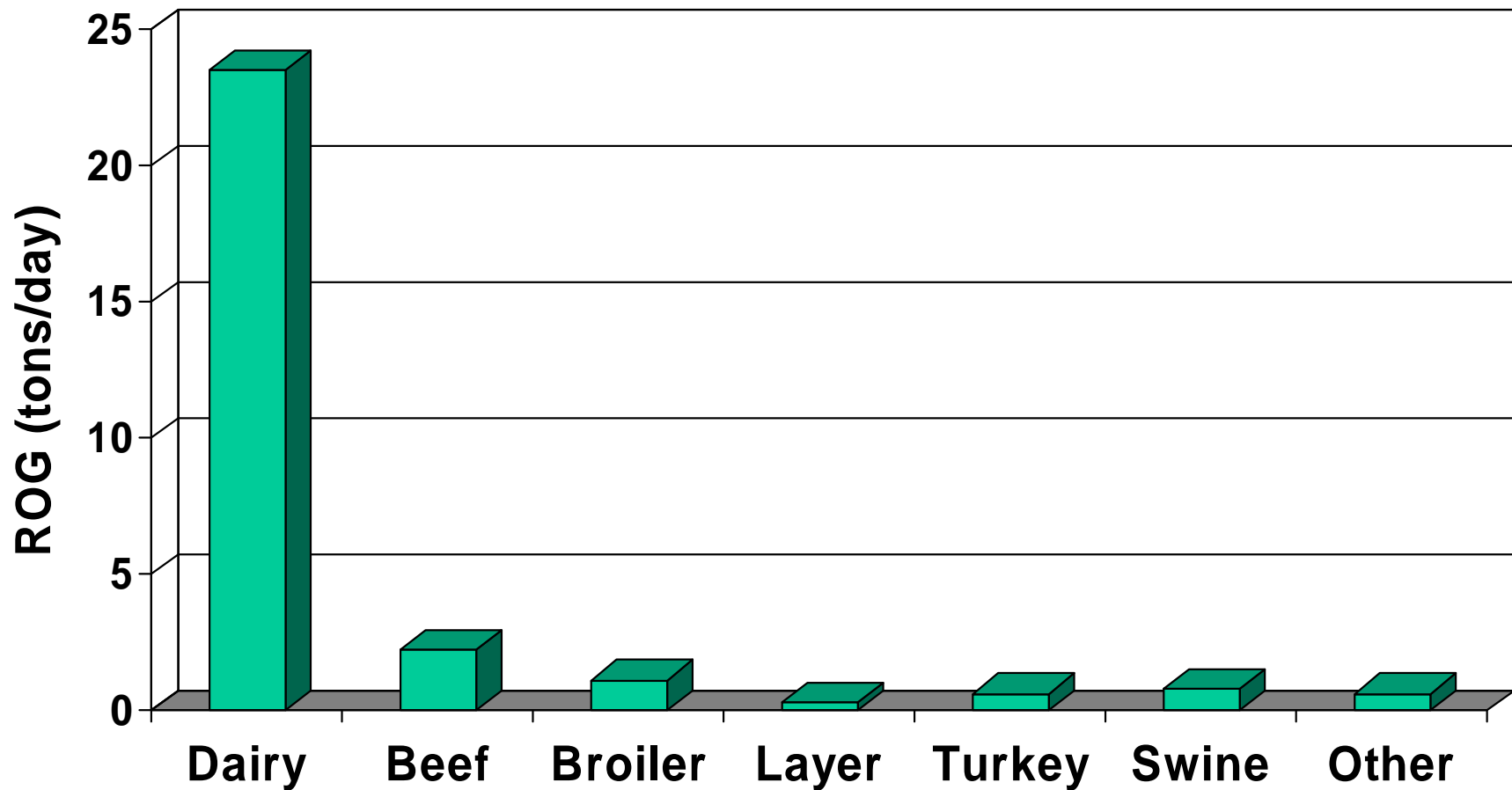


Statewide Livestock ROG Emissions

- San Joaquin Valley 63%
- South Coast 12%
- Imperial County 11%
- Other Regions <2%

Livestock ROG Emissions

San Joaquin Valley



Top Sources of ROG Emissions

San Joaquin Valley

Emission Source	ROG Emissions (tons/day)
Cars and Light/Medium Trucks	71
Oil and Gas Production	30
Pesticides	26
Consumer Products	25
Dairies	24
Off-Road Equipment	15
Solvents and Coatings	12
Architectural Coatings	11

Staff Proposal

SB 700 Statutory Directive

- The ARB shall review
 - All available scientific information
 - Emission factors
 - Effect on air quality in the basin
- The state board shall consider the effect on attainment and maintenance of air quality standards

Process for Developing Definition

- Initial Workshops Aug 2004
- Research Symposium Jan 2005
- Second Workshop Mar 2005
- Many stakeholder meetings

Summary of Staff's Analysis

- San Joaquin Valley is key -- most of California's livestock emissions
- Ozone attainment requires substantial new emission reductions
- Livestock ROG emissions are significant compared to other sources
- Dairy ROG emissions dominate
- Analysis uses current emission factors -- more research underway

Two Primary Options Considered

- Option 1: One-half the federal major source emissions threshold
- Option 2: Number of animals per facility considering aggregate emissions

Option 1: One-Half Federal Major Source Threshold

- Is consistent with minimum permit requirements in SB 700
- Does not account for cumulative emissions impact of CAFs
- Does not capture enough emissions
--more stringent threshold needed
- Creates uncertainty in definition when emission factors change

Option 2: Number of Animals

- Reflects facility emissions -- more animals means more emissions
- Better addresses aggregate livestock air quality impacts
- Provides certainty in terms of applicability
- More refined emission estimates will be used for mitigation plans

SJV Dairies at Various Size Thresholds

Dairy Size Threshold	% of Cows (emissions) Included	% of Facilities Included	# of Facilities Included
>500	89%	60	698
>1000	72%	36	430
>2000	39%	13	146

Proposed Definition for Nonattainment Areas*

Category	Definition
Dairy	1,000
Beef Feedlots	2,500
Other Cattle	7,500
Chickens - Broilers & Layers	650,000
Turkeys	100,000
Swine	3,000

*The complete definition, including other livestock categories, is provided in the Staff Report

Effect of Proposed Definition (Nonattainment Areas)

- For dairies, definition of 1,000 milk cows includes 72% of SJV dairy emissions
- Affects only 36% of SJV dairy facilities
- Other livestock category thresholds developed using similar approach
- Individual facility emissions similar at proposed thresholds

Proposed Definition for Other Areas*

Category	Definition
Dairy	2,000
Beef Feedlots	5,000
Other Cattle	15,000
Chickens - Broilers & Layers	1,300,000
Turkeys	100,000
Swine	6,000

*The complete definition, including other livestock categories, is provided in the Staff Report

Effect of Proposed Definition (Other Areas)

- “Other Areas” are those in attainment of the federal ozone standard as of January 1, 2004
- Few facilities expected to meet definition

Recordkeeping Requirements

- Facilities typically maintain records on number of animals
- This information is needed for enforceability
- Regulation requires this data to be accessible

Environmental Impacts

- No significant impacts are likely to result from definition or recordkeeping requirements
- District rules will provide air quality benefits

Economic Impacts

- Definition or recordkeeping requirements do not create economic impacts
- Districts must consider economic impacts of livestock rules

Issues

Issues

- Stringency of the Definition
- Emission Factors and Permitting
- Mitigation Options and Costs
- Ammonia Emissions

Stringency of the Definition

- Commenters suggested both lower and higher head counts
- Staff proposal ensures most SJV and statewide livestock emissions are included
- Captures 36% of SJV dairies with over 50 cows

Emission Factors and Permitting

- Emission factors used for mitigation plans and permitting
- Industry concerned about adequacy of science
- Proposal uses current emission factor -- more research is ongoing

Mitigation Options and Costs

- Concern about availability and costs of mitigation
- SB 700 requires that these issues be addressed in district rulemaking process
- Staff encourages consideration of menu-based approach for emission controls

Ammonia Emissions

- Commenters want smaller dairies included to address ammonia emissions
- ARB proposal focuses on ozone air quality but districts have authority to address other air quality issues

Summary

- Includes over 70% of SJV livestock emissions
- Ensures comprehensive evaluation of mitigation options in key area -- SJV
- Addresses livestock types equitably
- Provides less stringent definition for areas with better air quality

Staff Recommendation

- Approve recommended large confined animal facility definitions
- Direct staff to continue research efforts and coordinate with air districts on implementation issues

Ongoing Efforts

Livestock Emissions Research

- California Research (over \$3 million)
 - Fresno State University
 - Schmidt
 - UC Davis
 - Energy Commission
- National Research

Ongoing Efforts

Emissions Mitigation

- SJV Dairy Permitting Advisory Group
- Dairy Manure Technology Feasibility Assessment Panel

END